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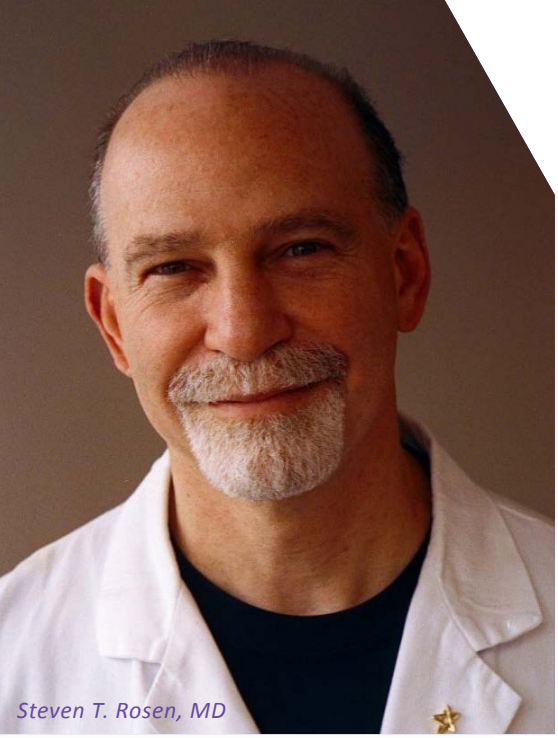
Robert H. Lurie Comprehensive Cancer Center of Northwestern University

Cancer 2012 Annual Review



Steven T. Rosen, MD

Dear Colleagues:

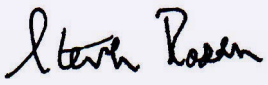
The Robert H. Lurie Comprehensive Cancer Center of Northwestern University is one of only 41 National Cancer Institute-designated comprehensive cancer centers in the nation. The program is noted for its comprehensive research, distinguished and dedicated staff, world-class teaching and ongoing advancements in medical, surgical, radiation, interventional and supportive oncology care.

The Lurie Cancer Center also has focused its strengths in key areas through the establishment of dedicated institutes and programs. In addition to the Northwestern Brain Tumor Institute, the Maggie Daley Center for Women's Cancer Care, and Northwestern Institute for Comparative Effectiveness Research in Oncology (NICER), we have created a Northwestern Medicine Developmental Therapeutics Institute (NMDTI). Over the next year, we look forward to opening up numerous First-in-Humans and Phase I clinical trials that will offer novel therapies to our patients. So, the patients will never have to look for new treatments outside of Northwestern. These dedicated areas integrate multidisciplinary faculty and staff, providing a platform for maximizing impact across all mission areas including education, research, patient care and community outreach.

This report highlights exciting accomplishments in the prevention, diagnosis, treatment, research and supportive care for patients with various cancer diagnosis achieved through collaboration among Northwestern Medicine, Northwestern University Feinberg School of Medicine and the Lurie Cancer Center.

A range of community education and outreach programs also is made possible through the Lurie Cancer Center, including a program focusing on cancer survivorship that launched in Fall of 2013.

We congratulate the many accomplishments achieved by faculty and staff this past year and thank them on behalf of all of our patients with cancer and their families.



Steven T. Rosen, MD
Director of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University

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Cancer Program Highlights

Fiscal Year 2012

• Comprehensive outpatient care services are provided in the Lurie Cancer Center's two locations on the 21st floor of Galter and the Maggie Daley Center for Women's Cancer Care in Prentice, serving nearly 13,000 new patients annually. Both locations provide a full range of cancer treatment services and a model program of supportive oncology services including social work, psychology, psychiatry, nutritional support, health education, rehabilitation, integrative medicine and patient navigation services.

• Regular multidisciplinary conferences provided prospective treatment planning for patients in the following areas:

– Breast cancer
– Gynecologic oncology
– Genitourinary cancers
– Hematologic diseases
– Head and neck cancers
– Neurological oncology
– Hematopoietic stem cell transplant
– Sarcoma melanoma
– Gastrointestinal oncology
– Thoracic oncology
– Palliative care
– Radiosurgery

• A wide range of education, support and outreach programs include the following:

• Professional education programs included the 13th annual Lynn Sage Breast Cancer Symposium, seventh annual Radiosurgery Symposium and the 14th annual Oncology Nursing Conference, as well as annual programs in Basic Sciences, Pain and Palliative Care, Lymphoma and ASCO and ASH Reviews.

• A full complement of patient education and support services was offered, including support groups, inpatient case management and comprehensive outpatient supportive oncology services. In addition, the Cancer Connections program held three times per year provided patients and families the opportunity to learn about health and wellness during and after cancer treatment and also to make contact with a variety of local support organizations.

• Survivorship programs were offered, including a late effects clinic (STAR Program), providing specialty services to adult survivors of pediatric cancer; a program addressing the special survivorship needs of breast cancer patients (SUCCEED); and a new program focused on the adolescent and young adult survivor population.

• Community education and outreach programs were offered, including numerous disease-oriented presentations, the annual Breast Cancer Town Hall Meeting and cancer survivorship initiatives, including the 19th Annual Cancer Survivors' Celebration and Walk on the Chicago lakefront with nearly 4,500 participants.

• The Lurie Cancer Center also sponsored and helped coordinate community programs focused on cancer health disparities including a Regional Symposium on Minorities, the Medically Underserved and Cancer in conjunction with the Intercultural Cancer Council; a State of the Cancer Union/ Minority Report; and an ACS program on The Impact of Health Care Reform in the Latino Community.

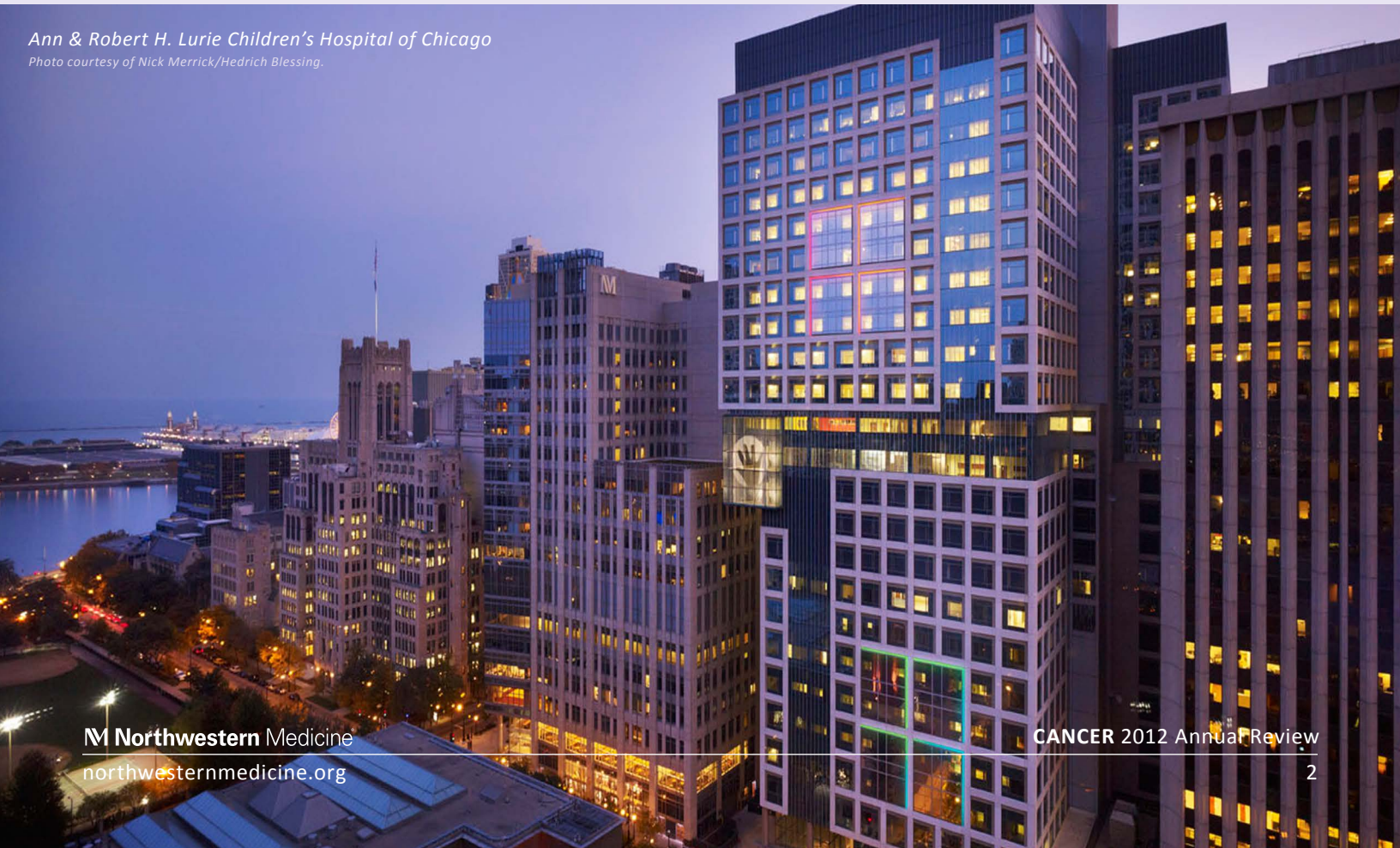
• Multiple new faculty recruitments to multidisciplinary care and research teams occurred. Key clinical faculty recruits included the following: Kristin Rae Swanson, PhD, has been named Professor and Vice Chair of Research for Neurological Surgery at Northwestern University Feinberg School of Medicine. Swanson comes to Feinberg from the University of Washington, where she served as the James D. Murray Endowed Chair of Applied Mathematics in Neuropathology as part of the Nancy and Buster Alvord Brain Tumor Center. A pioneer in the field of mathematical neuro-oncology as a novel means to generate personalized medicine

approaches for primary brain tumors, Swanson's talent for developing collaborative networks comprised of strong multidisciplinary researchers, scientists, clinicians, and trainees, will strengthen the Brain Tumor Institute's research endeavors.

Frank J. Penedo, PhD a nationally-renowned health psychologist, joined Northwestern University Feinberg School of Medicine on June 1 as a Professor of Medical Social Sciences. He became the inaugural Roswell Park Professor and will lead the Lurie Cancer Center's Cancer Control and Survivorship Research Program.

• On Saturday, June 9, 2012, the Lurie Cancer Center welcomed our academic partner, Ann & Robert H. Lurie Children's Hospital of Chicago (formerly Children's Memorial Hospital), when it opened the doors to its new, world-class hospital at 225 E. Chicago Ave. Named in recognition of Ann Lurie's historic $100 million transformational gift, the 23-story facility, widely recognized as the world's tallest pediatric hospital, will offer innovations in medical care and technology, enhanced clinical programs, advanced treatment options for patients.

The nearly 275 members of the Lurie Cancer Center annually generate $175 million in extramural cancer-relevant research funding. The largest portion of this funding comes from the NIH, including $40 million from the NCI. The center was especially proud to have been awarded an NCI Cancer Center/Minority Institution Partnership Grant with Northeastern Illinois University—a federally-designated Hispanic-serving institution—focused on facilitating community-engaged cancer disparities research and encouraging students from diverse groups to pursue careers in science, health and health disparities. Through the Clinical Research Office (CRO) of the Lurie Cancer Center, a comprehensive clinical trials program is available to patients. Staffed by over 60 full-time employees, the CRO conducts and coordinates Phase I through Phase III clinical trials sponsored by federally funded national cooperative groups and the pharmaceutical industry as well as investigator-initiated institutional trials developed by faculty at Feinberg. Physicians affiliated with Northwestern Memorial and the Lurie Cancer Center regularly play leading roles in national cooperative group studies and in working to develop, test and accelerate access to new treatments. In fiscal year 2011, a total of 679 patients at Northwestern Memorial were enrolled in 256 interventional therapeutic and nontherapeutic clinical trials.



Ann & Robert H. Lurie Children's Hospital of Chicago
Photo courtesy of Nick Merrick/Hedrich Blessing.

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Skin Cancer Institute

Skin cancer—the most common form of cancer in the United States—touches all of our lives. An estimated one in five Americans will develop skin cancer during a lifetime. At the Robert H. Lurie Comprehensive Cancer Center of Northwestern University, we are deeply committed to reversing the growing incidence of all forms of skin cancer by contributing breakthroughs and innovations to help patients today and in the future.

Through our multidisciplinary Skin Cancer Institute, we are providing expert patient care and spearheading high-impact research, education, and training through our nationally recognized programs. We are the Chicago area's leading site for the care of patients with skin cancers (including melanomas, cutaneous lymphomas, and carcinomas) and are proud to offer a comprehensive and patient-centered clinical program.

The Skin Cancer Institute at Northwestern was created to:

- Provide comprehensive, state-of-the-art care to patients with skin cancer.
- Reverse the skin cancer epidemic by educating medical professionals and the general public about prevention, early detection, and treatment of skin cancers.
- Continue and expand innovative clinical and basic science research that seeks to better understand all aspects of skin cancers, and discover new approaches for skin cancer prevention, diagnosis, and management.

Leaders in Prevention and Early Detection

Northwestern is a forerunner in education and research that focuses on preventing and detecting skin cancer. Through rigorous research and out-of-the-box thinking about how people learn and what motivates people to change their behaviors, we are working directly with patients, research fellows, and medical students on several innovative projects. They include:

Project Skin Watch

With the leadership of June Robinson, MD, Project Skin Watch is an educational research study that aims to teach melanoma patients and their partners how to perform accurate skin checks to promote early detection of skin cancer. This novel study was awarded a Research Project Grant (RO1) from the National Institutes of Health.

Medical Student Education

Another key prevention and early detection project involves our Northwestern University Feinberg School of Medicine students and our simulation center. Recognizing that only 16 percent of physicians are identifying melanomas in their patients, we are seizing the opportunity to include opportunistic surveillance training in our third-year primary care clerkship curriculum.

Mole Mapping and Total Body Photography

We use the latest techniques—mole mapping and total body photography—to carefully monitor patients.


Mary Martini, MD

Mary Martini, MD, director of the Pigmented Lesions and Melanoma program, has been a pioneer in the use of dermoscopy and more recently the computerized Melafind® system for detecting melanomas visually. Our goal is to detect melanoma at its earliest stages allowing for a high chance of cure with surgery alone while avoiding excessive or unnecessary biopsies of benign lesions. Pedram Gerami, MD, also performs this service.

Taking a Multidisciplinary Approach to Melanoma Treatment

Melanoma is the most lethal form of skin cancer and needs more research and discoveries to save lives. Although melanoma accounts for less than five percent of skin cancer cases, it causes more than 75 percent of skin cancer deaths.

Through our newly established Melanoma Multidisciplinary Clinic, our physicians work closely with patients to coordinate their dermatology, medical, and surgical oncologic care. Our academic team reviews new patients in a dedicated weekly tumor board and provides patients with the most advanced diagnostic techniques and treatment management, including access to the latest clinical trials for melanoma. Our physician-scientists can offer patients outstanding clinical care, as well as vast expertise in histology and molecular diagnostics. This unique combination helps us ensure that a patient's diagnosis and care are as tailored and effective as possible.

Nationally and Internationally Recognized For Our Clinical Programs

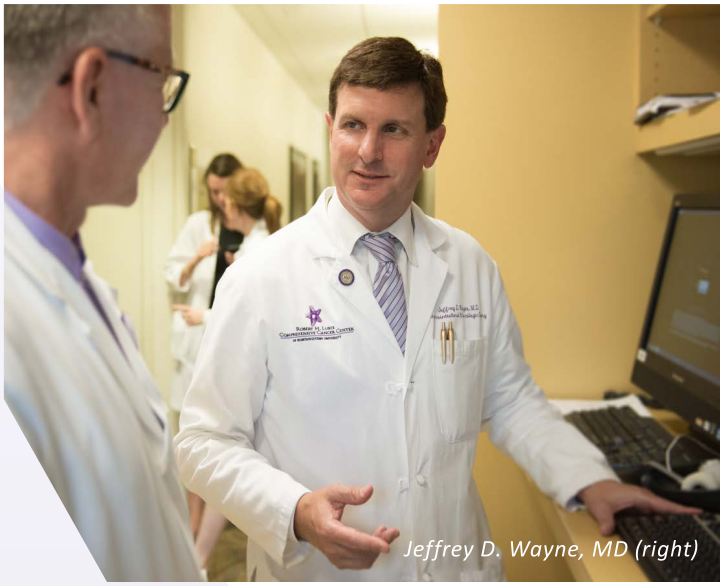
Our staff here at Northwestern has developed a number of leading diagnostic and treatment programs that have earned recognition around the country and around the world.

• The leadership of Pedram Gerami, MD, in molecular diagnostic techniques for melanoma has helped us to become a world-referral center for helping patients and their doctors determine whether a tumor is benign or malignant.

• Drs. Wayne and Bilimoria have developed the region's largest center for the surgical treatment of melanoma. They offer the latest techniques, including sentinel node biopsy for the treatment of early stage disease. They also specialize in complex lymph node dissections for the treatment of disease that has spread to the lymph nodes.

• Dr. Wayne also offer isolated limb perfusion for the treatment of difficult cases that have metastasized to the skin, sparing their patients possible amputation. They are active participants in the Multicenter Sentinel Lymphadenectomy Trial-II, and they are national leaders in the study of melanoma-related treatment outcomes.

• Jayesh Mehta, MD, directs the hematopoietic stem cell transplant program, which is the largest in the Chicago area and one of the largest in the country. The program is actively involved in allogeneic hematopoietic


Jeffrey D. Wayne, MD (right)

"Our multidisciplinary team of physicians and researchers is involved in promising research for new treatments."

stem cell transplantation in patients with cutaneous lymphomas with excellent long-term outcomes (sustained remissions).

• Murad Alam, MD, directs the Mohs micrographic surgery program, which is the largest university-based service in Chicago, and one of the nation's leading research centers in the field. The program is optimized to treat complex basal cell carcinomas and squamous cell carcinomas, as well as uncommon and rare non-melanoma skin cancers, like dermatofibrosarcoma protuberans. The Northwestern program is the lead site for national research on surgical safety and effectiveness during Mohs.

• Steve Rosen, MD, Timothy Kuzel, MD, and Joan Guitart, MD, have been instrumental in ushering in progress and brighter futures for patients with cutaneous lymphomas. Many of today's treatments for cutaneous lymphomas were developed and/or initially tested here at Northwestern.


Jonathan Cotliar, MD (right)

• Simon Yoo, MD, and his colleagues have been working to evaluate and monitor patients who have had solid organ transplants, which places them at 100-fold increased risk of squamous cell skin cancer. In addition, the Institute team has established a database of all Northwestern transplant patients, and is making discoveries about cancer risk in specific transplant populations and in those taking certain immune-suppressing drugs.


Simon Yoo, MD (right)

• The team also monitors individuals who have other diseases and conditions that put them at high-risk for skin cancer, including chronic leukemia, HIV, lupus, rheumatoid arthritis, Parkinson's disease, multiple sclerosis, and others. We have the only high-risk skin cancer program in the city to evaluate and treat patients who need this type of intensive evaluation and monitoring.

• Jonathan Cotliar, MD, has a specialized clinic for cancer patients with skin, hair, or nail problems that arise during the course of their cancer treatment. In addition, there is an inpatient consultative TARGET service for all hospitalized cancer patients that develop skin complications of their cancer therapy. This includes the diagnosis and management of graft-versus-host disease (GVHD) following stem cell transplantation, which Dr. Cotliar is actively researching with a Career Development Award from the Dermatology Foundation.

Providing Leading-Edge Research for Skin Cancer Treatment

Our multidisciplinary team of physicians and researchers is involved in promising research for new treatments.

• Timothy Kuzel, MD, professor of medicine and dermatology and director of the Walter S. and Lucienne Driskill Immunotherapy Research Program, is developing cutting-edge research into the use of immunotherapy for the treatments of melanoma

"As a leading research institution, Northwestern competed with top U.S. centers and was chosen to be one of six national Skin Disease Research Centers (SDRC)."

and cutaneous lymphomas. Under Dr. Kuzel's leadership, Northwestern is also at the forefront of treatment using novel new drugs or combinations of oral small molecule inhibitors of protein pathways that are key to cancer growth and progression.

• Xiao-Qi Wang, MD, PhD, a Skin Cancer Institute scientist, has been conducting research to understand why melanomas metastasize and how we can control their spread. She has discovered that melanoma cells that spread outside of the skin have a distinct element on their surface called d-GM3.

• Mary Hendrix, PhD, studies "vasculogenic mimicry," the process by which aggressive melanomas develop their own vascular network to promote their rapid growth. She is identifying new targets for therapy based on our increased understanding of what underlies vasculogenic mimicry. With Dr. Gerami and others internationally, Dr. Hendrix's group is assessing and considering the therapeutic potential for a new diagnostic biomarker for melanomas called Nodal.

• Amy Paller, MD, has teamed up with Chad Mirkin, PhD, head of Northwestern's International Institute for Nanotechnology, to investigate new ways to personalize melanoma therapy through genetic therapy.

A Nationally Designated Skin Disease Research Center

As a leading research institution, Northwestern competed with top U.S. centers and was chosen to be one of six national Skin Disease Research Centers (SDRC). Funded by the National Institutes of Health, the SDRC at Northwestern includes 40 scientist members from 11 departments.

(left to right): Jeffrey D. Wayne, MD; Timothy Kuzel, MD; Karl Bilimoria, MD; Steven T. Rosen, MD; Pedram Gerami, MD; Mary Martini, MD; Joan Guitart, MD; Estela Martinez-Escala, MD; Jonathan Cotliar, MD.

Karl Y. Bilimoria, MD

Karl Y. Bilimoria, MD, is a surgical oncologist at Northwestern Memorial Hospital and provides treatment through the Robert H. Lurie Comprehensive Cancer Center of Northwestern University. He is Director of the Surgical Outcomes and Quality Improvement Center at Northwestern University Feinberg School of Medicine and co-Director of the Northwestern Institute for Comparative Effectiveness Research in Oncology. He also is an assistant professor at Feinberg with joint appointments in the Department of Surgery, the Center for Healthcare Studies and the Department of Medical Social Sciences.

Dr. Bilimoria obtained his undergraduate degree from Northwestern University and his medical degree from the Indiana University School of Medicine. He also obtained a master's degree in health services research from Northwestern. Dr. Bilimoria was a research fellow at the National Institutes of Health and at the American College of Surgeons. He completed his general surgery residency training at Northwestern and then went on to a surgical oncology fellowship at the University of Texas M.D. Anderson Cancer Center. His clinical practice focuses on melanoma, sarcoma and breast cancer. He has a particular interest in locally and regionally advanced melanoma, and performs two operations for melanoma not offered elsewhere in the Chicago area: minimally invasive lymph node dissection and isolated limb infusions.

His research focuses on surgical quality measurement and improving the quality of healthcare for surgical and oncology patients. He is a faculty scholar at the American College of Surgeons and works with the American College of Surgeons on surgical quality improvement initiatives, in particular the National Surgical Quality Improvement Program (ACS NSQIP). He is a member of the Surgical Outcomes Club (SOC) and serves on the SOC Executive Committee. He also is a member of the Commission on Cancer and he is on the Executive Committee of the American Joint Cancer Committee. He has published more than 100 articles on surgical outcomes and healthcare quality.

Pedram Gerami, MD

Pedram Gerami, MD, is an Associate Professor of dermatology and pediatrics at Northwestern University Feinberg School of Medicine. Board-certified in both dermatology and dermatopathology, Dr. Gerami completed his residency training in dermatology at the University of Iowa and his fellowship training in dermatopathology at the University of Chicago.

He is internationally recognized as an expert in melanoma and pigmented lesions from a clinical, histopathologic, and research perspective. Dr. Gerami's research interests are focused on developing better diagnostic tools in the evaluation of melanoma and nevi. He leads a molecular diagnostics laboratory at Northwestern University, which uses tools such as fluorescence in situ hybridization (FISH) to improve diagnostic accuracy in the evaluation of melanoma and nevi. He is also on staff at Children's Memorial Hospital and works closely with the pediatric dermatology staff in biopsy evaluation, including of difficult melanocytic tumors such as Spitz nevi.

Joan Guitart, MD

Joan Guitart, MD, is Professor of dermatology and pathology at Northwestern University Feinberg School of Medicine, Director of the new Northwestern Skin Cancer Institute and a member of the Robert H. Lurie Comprehensive Cancer Center. Within the Skin Cancer Institute, he leads the internationally recognized Cutaneous Lymphoma Clinic. Dr. Guitart also is Director of the Dermatopathology Laboratory and an attending physician at Northwestern Memorial Hospital.

Dr. Guitart received his medical degree from the Autonomous University of Barcelona in Spain. He completed residencies in both Anatomical and Clinical Pathology and in Dermatology at the University of Illinois-Chicago, and trained in dermatopathology fellowship at the Cleveland Clinic.

Dr. Guitart is a respected expert in the study and treatment of cutaneous lymphomas and has led numerous therapeutic and diagnostic studies that have resulted in peer-reviewed publications in high-impact scientific journals. Among his numerous professional honors and accomplishments, he served as president of the Chicago Dermatological Society from 2007-08. He is a current mem-

ber of the American Board of Pathology, Dermatopathology Task Force; American Academy of Dermatology, Scientific Assembly Committee; and the International Society of Cutaneous Lymphomas, board of directors. He is a member of the editorial boards of the American Journal of Dermatopathology and the Journal of Cutaneous Pathology. At Northwestern University, he is co-director of the Pathology Core within the National Institutes of Health-funded Skin Disease Research Center.

Timothy M. Kuzel, MD

Timothy M. Kuzel, MD, is a professor of Medicine and Dermatology in the division of Hematology/Oncology and the Department of Medicine at Northwestern University Feinberg School of Medicine and an attending physician on the medical staff at Northwestern Memorial Hospital. He is the medical director of the Clinical Research Office at the Robert H. Lurie Comprehensive Cancer Center of Northwestern University. He also is the director of the Walter S. and Lucienne Driskill Immunotherapy Research Program at Northwestern University.

Dr. Kuzel received his medical degree from the University of Michigan. He completed an internship and residency in internal medicine, as well as a fellowship in hematology/oncology, at the McGaw Medical Center of Northwestern University. He is board certified in hematology, oncology and internal medicine and is a diplomate of the National Board of Medical Examiners.

Dr. Kuzel has received the American Cancer Society Clinical Oncology Career Development Award and was the recipient of a teaching award from Feinberg. He is an accomplished clinical investigator and has participated in numerous clinical trials involving novel cancer therapies. He has authored or co-authored more than 250 journal articles, editorials and book chapters and co-wrote Cancer Treatment and Research: Immunoconjugate Therapy of Hematologic Malignancies and the Lurie Cancer Center's Handbook of Hematology/Oncology.

Dr. Kuzel is a part of numerous national, state, hospital, university/medical school and cancer center committees, and is an active member of professional societies such as the American Society of Clinical Oncology, American Society of Hematology, the Eastern Cooperative Oncology Group and the International Society for Biologic Therapy of Cancer. He is currently serving a term as the president, of the Illinois Medical Oncology Society (IMOS) and has been on the board of directors of IMOS for more than seven years. Dr. Kuzel also is a member of the NCCN Kidney/Testicular Cancer Panel and the NCCN Bladder Cancer Panel.

June Robinson, MD

June Robinson, MD, Research Professor, received her medical degree from the University of Maryland in 1974. She completed her residency in dermatology at the Greater Baltimore Medical Center where she served as chief resident and clinical instructor at the Dartmouth-Hitchcock Medical Center in Hanover, N.H. She was one of the first female Mohs surgeons, and completed fellowships at Mohs Chemosurgery and Dermatologic Surgery New York University Skin and Cancer Clinic. Dr. Robinson was a member of the faculty of the Department of Dermatology at Northwestern University Medical School from 1979-1998, and returned to our faculty in 2005.

Dr. Robinson has a longstanding interest in skin cancer prevention, detection, and treatment. She served as a panel member of the National Institutes of Health (NIH) Consensus Development Conference, Diagnosis and Treatment of Early Melanoma in January 1992, which clarified the definition of early melanoma and recommended narrower margins for the surgical removal of early melanoma. From 1996-1998, she represented the American Academy of Dermatology as a co-principal investigator in the National Skin Cancer Prevention Education Program, which was in cooperative agreement with the Center for Disease Control and Prevention. In 2000, she served as a panel member of the International Agency for Research on Cancer, World Health Organization, which considered the use of sunscreens. Dr. Robinson is the editor-in-chief of the Archives of Dermatology.

Dr. Robinson has studied the relationship the use of sun protection by patients, family members and partners as a tool for preventing skin cancer. She has been a pioneer in teaching partners and other family members, in addition to affected individuals, about signs of skin cancer for early detection. She has examined national trends in sun protection attitudes and behaviors of the U.S. population,

and has found that factors enhancing the use of sun protection are: a personal history of skin cancer or someone in the household with a history of skin cancer, self-reported sun sensitivity, and history of sunburn.

Jeffrey D. Wayne, MD

Jeffrey D. Wayne, MD, is chair of the Northwestern Memorial Hospital Committee on Cancer, an associate professor in the Department of Surgery and Chief of Melanoma and Sarcoma Surgical Oncology at Northwestern University Feinberg School of Medicine. He also is associate medical director of the Robert H. Lurie Comprehensive Cancer Center. His clinical and research interests include the multidisciplinary management of melanoma, soft tissue sarcoma and upper gastrointestinal tumors.

Dr. Wayne received his medical degree at Boston University in Massachusetts, and completed his residency at University of Chicago Hospitals and a fellowship at The University of Texas M.D. Anderson Cancer Center. He is a member of several professional societies, including the American College of Surgeons, the Society of Surgical Oncology, American Society of Clinical Oncology, the Association for Academic Surgery, the Association for Surgical Education and the American Cancer Society. Dr. Wayne has delivered more than 25 invited lectures on oncologic surgery and management to university medical schools and professional societies, and has authored more than 60 scientific articles and 20 book chapters. He also is a member of the editorial board of The American Journal of Clinical Oncology.

He has earned numerous honors and awards, including the Excellence in Teaching Award from the Department of Surgery at Feinberg, (seven-time recipient); the Compassionate Care Award from the Woman's Board of Northwestern Memorial Hospital; the American Society of Clinical Oncology Merit Award (twice awarded); and inclusion in Best Doctors in America, 2005-2013.

Simon Yoo, MD

Simon Yoo, MD, is an Associate Professor in the Department of Dermatology at Northwestern University Feinberg School of Medicine. Dr. Yoo received his undergraduate degree from the University of Pennsylvania and his medical degree from Yale University School of Medicine. After completing his internship at the Brigham and Women's Hospital of the Harvard Medical School, he completed his Dermatology residency at Johns Hopkins School of Medicine, where he served as chief resident. Dr. Yoo performed his fellowship in Mohs/Procedural Dermatology at the University of California, San Francisco. At Northwestern, he directs the Transplantation Skin Cancer service. Under Dr. Yoo's leadership, Northwestern is one of 11 collaborating sites that is studying Hedgehog inhibitors and their role in treating basal cell cancers. Hedgehog signaling pathway abnormalities are present in 90 percent of all basal cancers. Currently, surgery is the standard treatment for basal cell carcinoma. Hedgehog-inhibiting drugs could prevent and cure basal cell cancers and provide an option for those who have a cancer that is inoperable or cannot be treated with radiation (i.e. basal cell cancer near eye). Currently, there is an oral molecular-targeted drug therapy in phase II clinical trials. This drug has shown promise and has been cleared for a fast track review by the Food and Drug Administration. Dr. Yoo's areas of expertise include Mohs micrographic surgery and reconstruction, laser surgery, ambulatory phlebectomy, endovenous ablation, liposuction, hair transplant, botox, and fillers.

2011 Registry Report

The Northwestern Memorial Hospital Tumor Registry, under the direction of the Committee on Cancer, is a key component of the comprehensive cancer program. The registry collects, maintains pertinent patient data required for reporting to the Illinois State Cancer Registry, the National Cancer Database and the American Cancer Society. This data is utilized for evaluation of patient treatment, cancer incidence and outcome reporting studies and providing direction for further therapies.

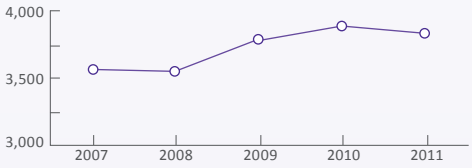
The Cancer Program is accredited by the American College of Surgeons Commission on Cancer. The registry has a reference date of 1992 and currently follows 49,500 patients annually.

TOP 10 SITES FOR 2011

MALE AND FEMALE	Northwestern Memorial Hospital (*n*=3,297)	United States* (*n*=1,181,280)
Breast	32%	20%
Prostate	16%	20%
Melanoma	9%	6%
Lung	8%	19%
Colon/Rectum	8%	12%
Blood and Bone Marrow	7%	4%
Lymphoma	6%	6%
Thyroid	5%	4%
Kidney/Renal Pelvis	5%	5%
Corpus Uteri	4%	4%
	100%	**100%**

**American Cancer Society Facts and Figures 2011*

TOTAL ANALYTIC CASES 2007 TO 2011



Since 2007 there has been a 9 percent increase in the number of analytic cases seen at Northwestern Memorial, from 3,610 cases in 2007 to 3,949 cases in 2011.

2011 Registry Activities and Accomplishments

- Added 3,949 newly diagnosed cancer cases to the registry
- Achieved 91 percent follow-up for cases diagnosed within the past five years

Primary Site Tabulation for 2011

PRIMARY SITE	TOTAL	CLASS		SEX		
		A*	N/A**	M	F	% of Cases
ORAL CAVITY	**84**	**82**	**2**	**58**	**26**	**2**
DIGESTIVE SYSTEM	**569**	**523**	**46**	**305**	**264**	**13.2**
Esophagus	44	43	1	32	12	
Stomach	56	51	5	37	19	
Colon	155	137	18	79	76	
Rectum	100	93	7	52	48	
Anus/Anal canal	16	13	3	9	7	
Liver	79	74	5	50	29	
Pancreas	79	77	2	34	45	
Other	40	35	5	12	28	
RESPIRATORY SYSTEM	**290**	**269**	**21**	**143**	**147**	**6.7**
Nasal/Sinus	4	4	0	2	2	
Larynx	14	12	2	13	1	
Lung/Bronchus	266	247	19	123	143	
Other	6	6	0	5	1	
BLOOD AND BONE MARROW	**233**	**160**	**73**	**117**	**116**	**5.4**
Leukemia	113	81	32	51	62	
Multiple Myeloma	92	61	31	49	43	
Other	28	18	10	17	11	
BONE	**6**	**4**	**2**	**4**	**2**	**0.1**
CONNECT/SOFT TISSUE	**28**	**21**	**7**	**16**	**12**	**0.6**
SKIN	**307**	**294**	**13**	**183**	**124**	**7.1**
Melanoma	295	282	13	175	120	
Other	12	12	0	8	4	
BREAST	**1,049**	**1,011**	**38**	**6**	**1,043**	**24.4**
FEMALE GENITAL	**253**	**234**	**19**	**0**	**253**	**5.9**
Cervix Uteri	21	21	0	0	21	
Corpus Uteri	144	141	3	0	144	
Ovary	56	45	11	0	56	
Vulva	7	6	1	0	7	
Other	25	21	4	0	25	
MALE GENITAL	**555**	**527**	**28**	**555**	**0**	**12.9**
Prostate	525	498	27	525	0	
Testis	27	26	1	27	0	
Other	3	3	0	3	0	
URINARY SYSTEM	**280**	**255**	**25**	**181**	**99**	**6.5**
Bladder	116	100	16	77	39	
Kidney/Renal	160	151	9	101	59	
Other	4	4	0	3	1	
BRAIN & CNS	**208**	**187**	**21**	**95**	**113**	**4.8**
Brain (Benign)	31	30	1	15	16	
Brain (Malignant)	106	93	13	59	47	
Other	71	64	7	21	50	
ENDOCRINE	**209**	**202**	**7**	**53**	**156**	**4.9**
Thyroid	172	166	6	35	137	
Other	37	36	1	18	19	
LYMPHATIC SYSTEM	**198**	**146**	**52**	**105**	**93**	**4.6**
Hodgkin's Disease	34	27	7	15	19	
Non-Hodgkin's	164	119	45	90	74	
UNKNOWN PRIMARY	**28**	**26**	**2**	**11**	**17**	**0.6**
OTHER/ILL-DEFINED	**11**	**8**	**3**	**6**	**5**	**0.3**
ALL SITES	**4,308**	**3,949**	**359**	**1,838**	**2,470**	**100**

Number of cases excluded: 4

This report EXCLUDES carcinoma in-situ cervix cases, squamous and basal cell skin cases, and intraepithelial neoplasia cases.

**Analytic (A) are newly diagnosed cases that have received all or part of first course treatment at Northwestern Memorial.*

***Non-analytical (N/A) are cases that received all first course treatment elsewhere and came to Northwestern Memorial for subsequent treatment.*

Northwestern Medicine®

Robert H. Lurie Comprehensive Cancer Center of Northwestern University

Northwestern Recognized for Cancer Care

Northwestern Memorial Hospital earned national recognition for clinical excellence in 14 specialties, including cancer, in the *U.S. News & World Report* ranking of America's Best Hospitals.

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Para asistencia en español, por favor llamar al Departamento de Representantes para Pacientes al 312-926-3112.

Northwestern Medicine® is committed to representing the communities we serve, fostering a culture of inclusion, delivering culturally competent care and access to treatment and programs in a non-discriminatory manner, and eliminating healthcare disparities. For questions, please call the Patient Representative department at 312-926-3112, TDD/TTY number 312-944-2358.